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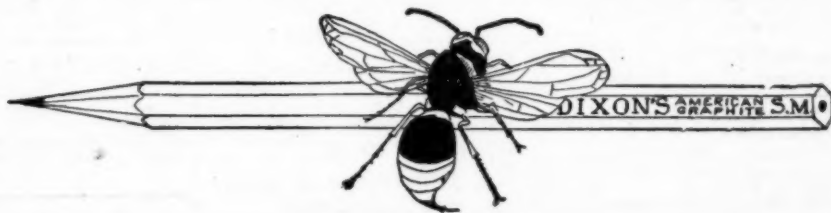
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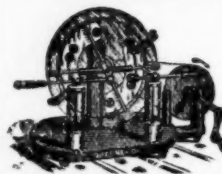
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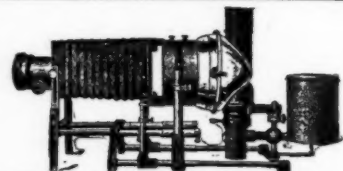
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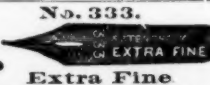


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THE SCHOOL JOURNAL

A Weekly Journal of Education.

Vol. XLVI.

For the Week Ending January 21

No. 3

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The business department of THE JOURNAL is on page 78.

All letters relating to contributions should be addressed plainly, "Editors of SCHOOL JOURNAL." All letters about subscriptions should be addressed to E. L. Kellogg & Co. Do not put editorial and business items on the same sheet.



TEACHING is certainly coming forward into greater prominence and respect. The school-room is beginning to occupy the attention of many of the best minds; once only a few saw its importance. The teacher must do his best to give rank to the school in the mind of the public. Bear in mind that Pestalozzi took charge of a school of orphan beggars; that he taught so as to attract the attention of the monarchs of Europe; that teachers from Germany, France, England, and America came to learn his methods. The work of this poor Swiss reformer made teaching assume a new importance in the eyes of the world. The rank the teacher holds will depend on the kind of teaching he does.

Supt. Greenwood must be credited with discovering a new genus of teachers. He classes them as "regressives," "standstills," and "progressives." The new class is the first named; "regressive" or backward-going teachers certainly do exist. One superintendent describes some of his teachers as "crochet crazy;" another says he knows he has teachers whose sole reading is the First Reader that is used by the pupils. It would be an interesting question to know how far back these regressive teachers can go. Supt. Greenwood is going to throw some light on the matter at the meeting in Boston, in February.

In the numerous letters that are laid daily on our table quite an aspect of education is presented. If those who write about subscriptions would enclose a separate sheet headed, "To the Editor," many valuable thoughts would be obtained that are now lost because they are mingled with directions about change of address, or about money enclosed, or books to be sent, etc. The editors always read the points made by subscribers when they get them.

The letters from subscribers oftentimes show the need the teacher has of the culture that may come from writing. A writer of considerable distinction says: "I was teaching school at twelve dollars a month; I determined to be a good writer; I determined to write a foolscap page each day on some definite subject as 'Snow,' 'Bad Habits,' etc. I would think on one of these subjects as I walked to or from school and taking my pen would write; it was hard work at first, but I finally got handy with the pen. This was the way I learned to write."

The teacher should follow this example; there is no

way he can educate himself so well and so surely as by writing, writing, writing.

There are all sorts of "failures" in the school-room; failure to keep order, failure to make good readers, failure to make good spellers, failure to teach morals, failure to impart high aims and earnestness; but these may all happen to teachers who are ordinarily very successful. A worse failure than any or all of these is the teacher not to have a firmly founded scheme of thought concerning education, the part he is to perform, the tendency of the various processes he employs to cause activity in the educative powers of the child. It is the failure here that makes so many school-rooms achieve so little when they promise so much.

A commissioner in Sullivan county several years ago, gave a first grade certificate to a young man, who remarked, "I intend next year to try for a state diploma." This aroused the attention of the commissioner; it was an announcement that the teacher was going to be a student as well as the pupils. He watched the school of this young man; it was in a community that had been indifferent; the salary paid was very moderate. Great interest was reported; lectures were delivered at the school-house; the parents came to the monthly receptions instituted; the children had speeches, dialogues, and singing. The trustees offered higher wages for the next year. All this came from having a teacher who was himself a student. It is proper to say he took the state diploma and is now principal of an important high school.

Attention has often been called to the close relation between politics and education in this country. It is useless for us to expect that the educational machinery that appoints teachers and fixes the salaries will come into the hands of the teachers. It may as well be admitted that the teachers could not do this properly if it were put on them. They may, however, if they choose, have a great deal to say as to the qualification of those who are appointed to teach. If the appointing officers were limited, for example, in their selection to those who held life diplomas, a great step forward would be taken.

While the teachers may complain that the appointing force is in the hands of politicians, it may well be asked whether the teacher has done what he could to raise the standard of qualification. In looking over the meetings of the state associations that have just occurred, no paper appears to have been read on this subject; and yet it is a vital one. Do the teachers of any state seriously want higher standards fixed for the third, second, and first grade certificates? Are they not averse to higher ones? And yet, is there any road to progress but by higher ones?

The School and Life.

When we stop to think of it, we must conclude that the great Creator meant that the overhanging heavens, the vegetable and animal, life, the rivers, the mountains, the rocks, the pebbles, the daily operations of nature, the change of the seasons, the occupations of humanity, birth, marriage, death, our intercourse with each other, our social and political relations—all these were meant to be means of education. With adults they are such; while they do not seem specially contrived to education as an end, yet life must be looked upon as a school. And if it is life of the right sort, a progress is set up; there is discovery in physical, moral, and mental lines. These discoveries, such as writing, smelting, printing, etc., enable the progress made to be more widely extended.

To understand education we must understand how the race has been educated; in other words, education is an application of the laws that have been found to lie at the base of man's progress in this world. Pedagogy is by no means the narrow science some would make it out to be. The old Roman who exclaimed in the theater, "*Homo sum; humani nihil a me alienum puto*" (I am a man; and deem nothing that relates to man foreign to my feelings), employed a thought that the student of pedagogy should make his own. Nothing that relates to the development of man is outside the pale of the science of pedagogy.

History has been studied too much as a record of battles and sieges; it is in reality a narrative of the life of humanity; the historian should concern himself mainly with the progress of art, science, literature, religion, and general culture, the growth, in fact, of civilization, which means the education of man.

There is some cause for human development; the arrow flies in the air, because there is an impelling force. Behind humanity there is something not behind the beast. There is something more than an influence that causes him to become an adult. Man is the representative of Deity upon the planet. Education is the name given to his movement towards a divine stage.

Now if we look back to see what are the causes that have impelled man along toward civilization, we shall see that they are all connected with life. If we begin with mineralogy, for example, we shall soon find ourselves deep in an attempt to comprehend the energy that has arranged the atoms so curiously; we shall classify the stones dug out of the mines, in accordance with our recognition of the force that gave them the angular forms they have. In other words, we shall recognize the operation of energy acting through matter.

It will be the same if we take up geology, geography, astronomy, meteorology, chemistry, physics, or biology; we shall eventually come out at the same point. We shall find ourselves going back to the starting point, "In the beginning was the Word."

The work of the school-room will never be properly done unless life is taken into account. Pestalozzi says: "My first aim was to produce among them (his pupils at Stanz) sentiments of true family life, affection, justice, and morality. I often pictured to them the happiness of a modest and a peaceful home, which, by economy and work, provides bread for its inmates and is able to help the unfortunate. . . I wished to combine study with work. I gained two important experiences. . . Second that children can be taught many things while engaged in manual work." The teacher must comprehend that the children came to her that they may live more abundantly. The idea is too often that they came not to be taught how to *live* more broadly and beautifully, but to learn certain things out of certain books. The test of all right teaching is to be seen day by day in the school-room. As they enter the room this morning the teacher will feel if he has done his work aright that they *live* more abundantly than they did yesterday. Let him plant a tiny seed in a box and put it in the school window and watch it grow. Let him, as he visits it each morning, turn around and look at his pupils, and ask the question: "Do these pupils have an enlarging life as this plant has?"

The life that is outside of the school is that which stimulates the life that is within the school. It was this idea that was grasped by Froebel and gave him immortality.

Mistakes as to the Modern Languages.

By PROF. F. V. N. PAINTER, Salem, Va.

By modern languages, as used in this article, are understood French and German; but the same remarks will apply to Spanish and Italian, and also to English when studied on the Continent.

1. It is a mistake to suppose that a modern language can be learned in a few weeks or months. From time to time we hear of new methods which profess to accomplish this result. Of course some methods are better than others. But a moment's reflection will show that no method, whatever may be its claims, can do anything more in six months than give the student an encouraging start. A modern language consists of an immense vocabulary, representing the ideas and culture of a high civilization. The mastery of such a language, if it be possible at all, is the work of a life-time; and any adequate knowledge of it must be the work of years.

2. Another mistake is to maintain that any one method is to be used at all times and under all circumstances. In teaching modern languages, as in other spheres of human effort, the means should have some relation to the end. Though a thorough knowledge of a language includes the ability to read, to write, and to speak it, any one of these three particulars may, for special reasons, be aimed at. If the fluent use of a small every-day vocabulary is desired, careful, and continued grammatical drill is not necessary. If reading the language is specially aimed at, small conversational exercises should give place to a study of the forms and structure of the language. Furthermore, the age of the student should have consideration in deciding the question of method. It is a loss of time to attempt to teach adults in the same manner as children. Without linguistic training and the power to take in abstract statements, children learn best by concrete, oral practice. But adults readily comprehend generalizations and principles, which they would learn in practice only after weeks or months.

3. It is a mistake to think that native teachers are the best. This belief is based on the supposition that conversational ability is the chief requisite in a teacher. Without underrating this ability, it may safely be said that other attainments are more necessary. To say nothing of the personal factor in the teacher, a good knowledge of English is indispensable. An acquaintance with the difficulties of a foreign language, as learned through actual study, is very desirable. Without this twofold knowledge, the teacher will hardly be able to enter into full sympathy with his pupils, and to awaken a proper interest in his work. Besides this, only the American teacher is likely to make his instruction harmonize with our ideas and methods of education. As a rule, the American teacher, provided he has made adequate attainments in the language he proposes to teach, will give the best results.

4. It is a mistake to believe that a modern language can be learned without a teacher. To be sure, any person of good attainments in English or in Latin and Greek can master French or German grammar without much difficulty. He can learn also to understand the written pages without the aid of a teacher. But when it comes to pronunciation, which may justly be regarded as an indispensable element in acquiring a language, his effort is apt to be a lamentable failure. The reason of this is obvious. Both French and German contain sounds unlike anything in English; and these sounds are to be learned, not by written rules, but by imitation.

5. It is a mistake to suppose that the modern languages are not disciplinary. This mistake, far less common now than fifteen years ago, becomes obvious when the

effect of language study upon the mind is duly considered. The study of language trains the attention, cultivates the memory, and develops the judging and reasoning powers. In these particulars there is not much difference among the cultivated Indo-European family of languages. The thorough study of any of them gives substantially the same results. In addition to this, the study of languages, as soon as it reaches literature, brings to the mind a store of fact, thought, and feeling. Discipline passes over into culture. And in this particular, the modern languages, including the mother tongue, are without a rival.

The Homiletics of Teaching.

By JAMES BUCKHAM, Boston, Mass.

"What a curious subject!" I fancy I hear this exclamation discharged at irregular intervals, like the random firing of a skirmish line, as THE SCHOOL JOURNAL falls open in the hands of its widely-scattered army of readers, from Maine to California. 'The Homiletics of Teaching'—what good can come out of such a Nazareth of titles as that?"

Suppose we put it in simpler, more colloquial phrasing,—"The Preaching of Teaching." How does that sound? Not euphoniously, to be sure; but I venture to hope some of my readers see a glimmer of reason in it. The preaching function of the teacher,—that is the idea underlying all this caption-seeking prelude; the thought that the teacher's mission and the teacher's privilege are not altogether confined to the work of instruction, but reach over into moral and spiritual activities; so that, when the teacher stands up before a roomful of bright young faces, he or she may be moved to say—"Ah, there are souls behind those eager eyes, and motives behind those restless hands, and before God it is my duty, and shall be my joy, to instil into the one pure and helpful aspirations, and to put before the other high and worthy ideals. I will not content myself with forming these minds only; I will go deeper, to the springs of heart and soul."

Any teacher who has felt this impulse, this inspiration (and what true teacher has not?) has surely forestalled me in the consideration of this odd subject, "The Homiletics of Teaching." The moral influence of the teacher, striking out through the forms, the suggestions, the wider applications of daily book-instruction,—this is what I mean by the preaching of teaching. It is a kind of moral *oratio obliqua*—not the direct, formal, pulpitering homiletics of the minister, but a certain sweet persuasive and pervasive preaching of character, tone, and look, suggestion, manner, turn of thought; a kind of aroma of personality, a preaching not unlike that of flowers and wood-odors.

The indirectness of this truly evangelizing influence of the Christian teacher is the secret of its chief power and charm. I am not one of those who stickle for definite and formal religious instruction or acts of religious worship in our public schools. In general, I distrust the helpfulness of anything which is purely formal; and I am convinced that there is little beyond formality in the religious exercises with which it has been customary to open the morning sessions of our public schools. But when religious and moral influences can be shed like sunbeams and dewdrops, so delicately, so softly, so unobtrusively that they become a part of the pupil's consciousness, as dewdrop and sunbeam become a part of leaf and flower-texture, then, I believe, is uttered the true and potent preaching for youth. The teacher who lives the Beatitudes is better far than the teacher who merely reads them from the desk.

What a mistaken idea it is of preaching, that there must always be the oratorical element in it, that it is a clearly-defined function of voice, gesture, and formal homily. The minister in the pulpit is only one of many preachers. The birds hold sweeter and often better services than he; sky and wind also have their messages from God; the very stones will be preaching the ser-

mons which their Maker has written in them. The mechanic preaches when he does good, honest, God-fearing work. The farmer preaches, well or ill, in the way he tills the ground. The doctor preaches through sympathy, warning, encouragement, and the subtle force of character impressed upon character. Above all, the teacher preaches, through daily example, through mental and moral sympathy, through pure and noble interpretations of truth, through the whole moral and spiritual atmosphere which he diffuses about himself. These are better homiletics than any formal religious utterance.

Looking back over my own schooldays, I must confess that I do not recall any inspirations or helps gained from what we called "the opening exercises;" but I have abiding and enriching memories of the Christian forbearance, solicitude, sympathy, gentleness, pure-mindedness, righteousness—those incorporated beatitudes—of my teachers. They preached to me every day out of the Bibles of their lives. This was the kind of religious teaching which my schoolmates and I could carry into the playground, into the holiday excursion, into the long vacation, and finally into the great arena of life. If there had been anything formal or didactic about our religious instruction at school, I am sure it would have been lost upon us. The power of this preaching lay in its indirectness. It was dew and sunbeam, not wheel and spindle. It melted into character, rather than was woven in.

This conception of the homiletic function of the teacher, it seems to me, adds new dignity and worth and joy to the profession of teaching. The instructor of youth is not a mere hewer of wood and drawer of water. He is not chained down to the more or less mechanical process of conveying instruction. There are larger possibilities for him. The spiritual as well as mental development of his pupils demands the best that is in him.

I always feel, when I go into a school-room, as if I were entering a garden of human flowers;—childhood develops so after the manner of a flower! Here are these active, vigorous bodies, storehouses of energy and health. They are the roots of the plant. Then these busy, inquisitive, accumulative minds, they are the woody substance, the stem of the plant, growing slowly, but surely and compactly. Then there are the souls—the sweet and precious blossoms of this garden of children. How differently these blossoms grow from the roots or the stems of God's wonderful human plant! It is rather a leaping and bursting into existence, than a steady, slow development, it takes a rose-bush years to grow, but a rose may open in an hour. So with a soul. You cannot tell the hour, the moment when it will reach its determining-point and take form and color for life. All depends upon the moral and spiritual atmosphere in which it finds itself unfolding. And how large a part of this atmosphere the school-room supplies! From eight years upward, on an average, the child spends the most significant part of his daily life in school, and the teacher's influence becomes the great morally-determining factor of its character. How is this matured soul influencing this spiritual beginner? How is this earliest and most trusted of pastors preaching to this little school-room parishioner?

These are questions which I would bring home to every teacher. Your school-room is in a very real sense a church, a house of God, whether you wish it or not. You are, perforce, a preacher; you cannot shuffle off the homiletic function. Your very way of thinking, your views of life, are texts, and your actions are sermons. No pulpit in the land has a greater character-forming power than yours. The teacher really makes the mould which the minister fills. School-room preaching is primary homiletics. Church preaching is secondary homiletics. Which, then, is the more important function? Upon which will the greater burden of responsibility fall?

Native ability without education is like a tree which bears no fruit.
—Aristippus.

Open Air Gymnasium

CONNECTED WITH THE PUBLIC SCHOOLS AT SANDUSKY, OHIO.

By SUPT. E. J. SHIVES, Sandusky, O.

While we boast of the public school idea being American and secular as opposed to the parochial school, which is distinctly European and ecclesiastical, we must not rest upon our oars and be content with what we have already achieved.

During the present century the principal aim has been, to perfect, as nearly as possible, the curriculum in so far as it relates to mind culture. Moral training has received some attention. We now trust that the American people are awakening to the fact that physical culture, upon which depends very largely, mental and moral culture, must receive its proper position in the curriculum of our public schools. Our purpose now, though, is not to make a plea for physical culture, but to show what Ohio, and especially Sandusky, is doing along this line.

In 1891, the Hon. Wm. B. Flickinger, of Erie, Pa., succeeded in inducing the lower house of the Pennsylvania legislature to pass a bill making physical culture compulsory in public schools of the state. The bill also passed the senate; but it received a check by Gov. Pattison's veto, which veto was sustained when sent back to the legislature.

The attention of Hon. John J. Molter, of Sandusky, Ohio, was drawn to the proceedings in the Pennsylvania legislature, and in the same year he endeavored to have physical culture made compulsory in the Ohio public schools. It was too late in the session, however, to have his bill placed on the calendar. During the following session of 1892, he was more successful. The bill passed both houses without a dissenting voice. It makes physical culture (including at least calisthenics) compulsory in all common schools, and educational institutions of Ohio supported by the state. This induced the Ladies' Gymnastic Society of Sandusky to take one more step ahead. Their desire was to have an open air gymnasium for the use of all school children in the city. The gymnasium was to stand on ground owned by the board of education and was to be under the full control of the board.

About five hundred dollars was raised by the ladies by subscription, and the board granted a space, 100 ft. by 125 ft., on the grounds of the Central high school. This space was first covered with sawdust and afterwards the apparatus was erected. The gymnasium has no sides or covering. After everything was completed, it was turned over to the board of education by the ladies' society, with appropriate exercises. The following is the outfit of the gymnasium:

A main structure 50 feet long with a post 30 feet high at each end. Each post has a short arm at the top and to these arms are attached ropes for climbing. Attached to the beam which connects the two posts at the top are twelve vertical poles twenty feet high, four climbing ropes twenty feet long, four oblique ladders twenty-three feet long and two adjustable ladders twenty feet long. The adjustable ladders may be placed in a vertical, oblique, or horizontal position.

Besides this main structure, we have a merry-go-round (for girls) with eight ropes; six parallel bars; six horizontal bars; four see-saws; six running tracks; six balancing boards. There are also pieces of hand apparatus, such as vaulting poles, etc. The gymnasium is intended for girls as well as boys. There are various pieces of apparatus for both sexes.

All the appliances are so adjusted as to make danger almost impossible.

The gymnasium is used at recesses, in the afternoon, and in the evening as well as on Saturday. During July and August the girls have the use of the apparatus in the morning and the boys in the afternoon and evening. The gymnasium has been very popular not only with the boys, but also with the girls.

All classes, whether rich or poor, take advantage of

the exercise it affords. No fees are charged. It is as free as the open air itself. During the vacations it is in charge of our efficient truant officer, Mr. Ulrich Zuercher.

Much credit for the existence of the gymnasium is due to Prof. Hans Ballin, our instructor in physical culture. Prof. Ballin is the author of the work on physical culture used in our school, which, by the way, is a complete work on this subject. He feels proud of his open air gymnasium and well may he be, for it is the first we know of in this country.

Visiting Day.

At the Summer avenue school, Newark, N. J., we found much practical help. For our first subject, let us take the monitor system by which the school is disciplined outside of class hours. The teachers in this school do no yard duty.

Mr. Gleason, the principal, carries with him to the school at its opening in September a remembrance of the pupils of last term, the result of watchful study. John Smith, we will say, has, during the past few months, come to the top in acknowledged leadership among the boys. He is even-tempered, genial, just, always on hand, and popular. He will have the generalship, this term, of the school forces detailed for yard duty.

Early in the morning of the first day of school, Mr. Gleason sends for John Smith, announces to him his honorable appointment and invites him to select perhaps two general assistants, with the injunction, "You know, you must have boys that you can depend upon." John names his choice and the principal criticizes it with a "Do you think Tom Brown is steady enough?" or "Will not Jack Hasty get into broils with the boys?" John defends or changes his selection, and the two general assistants are sent for. By their advice and that of the teachers other selections are made until a corps of perhaps a dozen monitors is organized. This body John Smith takes under his control and to each he deposes a duty.

"What shall I do?" says John to the principal a week later. "I told Jack Hasty to ring the quarter bell and he rang it in the court, where the children in the street couldn't hear it."

"What do you *think* you should do?" asks the principal.

"I don't know," hesitates John. Jack is a good fellow, but it was a clear act of disobedience, and if I let it go it will have a bad effect on the rest."

"That is your point," says Mr. Gleason.

"I'll discharge him!" resolves John. But, on talking with Jack, he finds regret for the fault and a serious intention not to do any more trifling, so he retains him.

The school comprises all primary and grammar grades. The school-house is modern and cheerful, and has a basement playground, heated in winter.

The "quarter bell," rung a quarter before nine, warns loiterers on the street to come into the yards. Of course the monitors are in the school building before this time. A part of their work is to see that the clocks are right. At five minutes before nine, the line bell is rung and the classes form, each in charge of its own monitor, elected by the class or appointed by the teacher. The head monitor stations his men here and there to see that all goes on promptly and well—one, for instance, stands at the gate to beckon in any laggards who may be in sight. At the next bell, the monitors retire to their regular stations on the stairs, and the classes file up, each class monitor falling in at the rear of his line. If a pupil misbehaves he is taken out of the line by the nearest monitor. The chief, book in hand, examines into these cases or takes the pupil's name. To each pupil whose name he takes he hands a ticket, which must be given to the class teacher.

On Friday, the principal examines the book and sends for the delinquents. Of course the number of tickets received by the teachers must tally with the book.

The School Room.

JAN. 21.—EARTH AND SELF.
JAN. 22.—NUMBERS AND PEOPLE.
FEB. 4.—PRIMARY.
FEB. 11.—LANGUAGE AND THINGS.

Minerals. VI.

By MINER H. PADDOCK, High School, Jersey City, N. J.

A GLANCE AT METHODS.

Some have said,—begin the study of minerals anywhere, it makes no difference. This is a mistake. Persons who begin "anywhere" have always a feeling that they may stop as they began, anywhere. There is no sense of beginning or end, and consequently no great sense of progress. The pupil never feels that he grasps the subject in its completeness, or understands the "method" he is pursuing.

Others have said,—begin with substances which the pupil finds about him and can pick up for himself, as granite, marble, etc. There is an element of correctness in this, in that the pupil looks about him and searches. But it has the two chances of error, namely, that this study will be quite likely to be without system; secondly, such material as he will find about him, building stones and earthy substances, are generally composite.

They are rocks, and rocks, mineralogically considered, are formed of minerals.

Study first the minerals composing the rocks, then a glance tells a story of the rocks. Study the quartz, feldspar, mica composing granite, and the puzzle of granite disappears.

A MINERALOGICAL PRIMER, AND PRIMER COLLECTION.

Any introductory study of minerals should be, in the first place, initiative; that is, it should acquaint the pupil early with mineralogical processes and distinctions. Secondly, it should be progressive and conclusive, should tend to a system so that when the pupil finishes he will find his collection classified and will understand the principles of its classification.

As minerals are chemical compounds he will gain considerable knowledge of chemistry, to say nothing of experience in physical properties and knowledge of formation of rocks, earth, and soil. His primer, however, should be planned to induct him primarily to the science of mineralogy. A teacher only feels well satisfied with her work as she has established the pupil in the principles of the science. To gain a knowledge of these principles, it is not necessary to go over the entire ground. A few minerals, well selected, will bring out the chief mineralogical processes and distinctions.

The chemical student will understand his system of classification *a priori*, or beforehand. The pupil who has not had chemistry will understand the chemical basis of his classification from the study of the minerals, and such knowledge of chemistry as this study brings about.

The primer will especially include minerals to represent progressive degrees of hardness, as developed in a previous article (V). Cleavage, luster, gravity, and other physical properties form convenient chapters. The first ten complete lessons, possibly no more will be needed, will acquaint the pupil with the use of the closed tube in the test for hydrates, the acid test, fusibility, and other experiments with blowpipe in forceps and on charcoal, fumes, and acid and alkaline reactions.

There is no more interesting experimentation, none more easily performed by pupils than these, and involving less, or so little expense. Indeed, there is reason to believe that the science (chemistry) can be happily brought out by minerals and it is not certain that this is not the best way to study the science in the chemistry of nature's laboratory.

THE STUDY OF STEATITE.

We have grouped our minerals (V.) in the order of their hardness. For purely mineralogical purposes there is no more convenient order of study. We therefore take up steatite first, though the mineral, while having novel properties, does not involve some of the more important processes of study. Steatite can be furnished to pupils at a cost of about one cent. It comes in slabs, but does not break well with hammer or chisel. It may be sawn across the grain in *slices* about an inch thick or less. It has easy cleavage in one direction, and can then be cloven in sticks several inches long, and of one inch or less section. With care these sticks can be struck with a hammer on the edge of a block of iron so as to break into cubic inches, or may be pinched in two between the chisels of a trimmer. The hammer should have a straight edge. The specimen will then show on two surfaces cleavage; on two, fracture; on two the sawn surfaces.

By some arrangement, presumably by selling to them, the pupils will take these home, and, following out the scheme of study which they have received, will write down these results on paper and bring mineral and results to class for further examination and

criticism. Those who cannot perform all the experiments at home are not barred from the study, as these can be performed in school. Let specific gravity be ascertained by direct experiment in the presence of the class by pupils appointed to prepare the exercise. Any acid or blowpiping tests may be treated in the same way; or, let the teacher perform these, using only those tests that actually apply to the mineral in hand. For instance, the acids are without perceptible effect on steatite and can be omitted, simply for a moment show what it is for an acid not to affect a mineral. Anything beyond the resources of the teacher can be omitted. Teachers, however, can gradually extend their resources. None of the physical properties need be omitted.

The examination of the mineral and the pupils' written work is a matter of ordinary class exercise. All being in readiness with mineral in hand, a pupil is called upon to rise and show what he has done and written. Any who differ in any way raise hand and criticize. The teacher may re-word loose answers, may extend the pupils' observations, may illustrate by experiments any disputed points, till all are agreed on what the answer should be.

Any information which the pupil obtains thus by criticism from other pupils regarding his mineral, he may incorporate in his notebook in a parenthesis along with his own original work.

When his work is thoroughly criticised, the pupil is ready to re-copy his study in permanent form in his note-book. This may be done in the condensed form, or where composition with a pupil is an object, in an expanded form. Where the composition form is used the description should read independent of the marginal topics. The writer suggests the following for steatite:

Steatite, a variety of Talc.
(Hydrous Silicate of Magnesium.) G. 2.7.
Swain Co., N. C.
(Original work.)

Hardness.—Steatite is a very soft mineral. It scratches easily with the finger nail, and rubs off on clothing. On account of its softness, we will call it No. 1, in the scale.

Cleavage.—The mineral cleaves easily in one direction, which we call basal.

Fracture.—It breaks with difficulty in another direction with a rough fracture. Struck with a hammer in the third direction the fracture is fibrous. The mineral is easily sawn across the fiber.

Tenacity.—Steatite is a little flexible, but chips off easily and is not elastic.

Color.—Its color is gray, or greenish gray.

Streak.—The streak or powder is white.

Luster.—The luster is pearly and glistening.

Transparency.—The mineral is opaque.

Touch.—Steatite has a greasy or unctuous touch.

Form of Crystal.—The specimen which I have is massive.

Magnetism.—It possesses neither magnetic nor electric properties.

Weight.—The mineral is rather light, or of medium weight.

Gravity.—Its specific gravity is 2.7.

In Acids.—The acids seem to have no effect upon steatite.

In Closed Tube.—Strongly heated in a test-tube, steatite yields a very little water.

In Open Tube.—The effect is the same in the open tube.

Fusibility.—The mineral may be said to be infusible. (But strongly heated on a thin edge it is slightly fusible.)

The remaining tests of the scheme are without effect. (Information derived from other sources than the specimen.)

Compositions.—Steatite is composed of magnesium, silica, and about four per cent. of water. Hence we will call it a hydrous silicate of magnesium.

Varieties.—The varieties of talc are:

1. Talc,—light green, pearly, foliated.
2. Steatite, or soapstone.
3. French chalk,—finely granular, such as tailors use.
4. Indurated talc,—shale, compact.
5. Rensselaerite,—compact, rocky.

Characteristic Tests.—The mineral is readily known by its softness, unctuous touch, color, and luster. Unlike mica it is inelastic, and unlike serpentine it yields little water.

Uses.—Steatite sawn in slabs is used to line furnaces, stoves, etc. Ground up it is used for lubricating machinery, for polishing surfaces, to slip on tight boots and gloves. It is employed in making paper and adulterating soap. It is worked into images, ornaments, slatepencils, and is used by tailors in making cloth.

Other Facts.—Talc sometimes occurs in right rhombic or hexagonal prisms. The cleavage of the light green talc is so perfect that it separates into thin pearly translucent leaves.

As seen above the study of steatite, affords considerable information, though the chemical tests are rather barren. Succeeding minerals, however, will compensate for this.

The pupils have been requested to bring in a lesson on coal.

The following is suggested for condensed note book form

Coal—Varieties.

H. 2.5.	Anthracite, Wilkesbarre, Pa.,	G. 1.8.
H. 1.5.	Bituminous, Pittsburg, Pa.,	G. 1.3.
H. 2.5.	Cannel Coal, Ohio,	G. 1.3.

Hardness.—2.5 to 1.5.
Cleavage.—None, sometimes break in layers (cannel).
Fracture.—Irregular, conchoidal.
Tenacity.—Brittle.
Color.—Black.
Streak.—Black.
Luster.—Shining, sometimes dull.
Transparency.—Opaque.
Touch.—Smooth, rough.
Crystal.—None, compact, massive.
Magnetic.—Electric, none.
Weight.—Rather light, especially cannel.
Specific Gravity.—1.3 to 1.8.
In Acids.—No effect.
In Closed Tube.—Yields inflammable gas.
In Opened Tube.—Burns.
In Forceps, B. B.—Infusible, generally burns; on charcoal the same. Other tests without effect.
Classification.—A hydrocarbon.
Composition.—Mostly carbon, some hydrogen. (A little oxygen and ash.)
Varieties.—Given above; jet is also a variety.
Characteristic Tests.—Color, brittleness, non-action of chemical tests; especially its combustibility with infusibility; less flame with anthracite.
Uses.—For combustion and heat, reduction of ores, gas, ornaments (jet).
History, etc.—Mined in Nova Scotia, Rhode Island, along the Appalachian range, in Illinois, Indiana, Kentucky, east; and in Missouri, Iowa, Kansas, Arkansas, Texas, west of the Mississippi river, and in other parts of the United States. Found in Great Britain, Belgium, and other parts of Europe, but not so abundantly. Known to the ancients (Aristotle, Pliny, Strabo,) as "certain stones which burn."
 Only, however, by improvement of stoves and furnaces, in recent centuries, adapted to purposes of heat and reduction of ores.—Remains of ancient vegetation.
 The model assumes that the pupil has more than one kind of coal, and wishes to include them all in one description.

Geography and Arithmetic.

By E. E. K.

Find Ireland on the globe. Find Switzerland.
 An Irish mile is 2,240 yards. A Swiss mile is 9,153 yards.
 How many Irish miles make a Swiss mile?
 Draw a line an inch long, to represent an Irish mile. Draw a line below it long enough to represent a Swiss mile.
 How many yards make a mile in this country? Tell how much longer or shorter than ours is the mile in each of the following countries:
 "The Irish mile is 2,240 yards.
 The Swiss mile is 9,153 yards.
 The Italian mile is 1,766 yards.
 The Scotch mile is 1,984 yards.
 The Tuscan mile is 1,808 yards.
 The German mile is 8,106 yards.
 The Arabian mile is 2,143 yards.
 The Turkish mile is 1,826 yards.
 The Flemish mile is 6,869 yards.
 The Vienna post mile is 8,296 yards.
 The Roman mile is 1,728 or 5,025 yards.
 The Werst mile is 1,107 or 1,335 yards.
 The Dutch and Prussian mile is 6,480 yards.
 The Swedish and Danish mile is 7,341.5 yards.
 The English and American mile is 1,760 yards."

Map Review Recreation.

By ALICE LORRAINE, New York City.

When the different states of the Union have been studied by map-drawing, the following plan can be used for a rapid and entertaining review lesson:

The pupils write at the top of their slates their full names, and below in a long column the numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, etc. The teacher has a slip of paper on which she has written and numbered a list of the states.

Teacher.—I am going to see if you remember some old friends we have been making acquaintance with. You know some people have a way of forgetting their friends if they don't see them very often, and there are others who say, "Oh, I remember you very well, but I can't recall your name." Now, we will see if we can remember the names and the appearance of our friends, the different states of our Union. I am going to ask Mary West to draw the map of (whispers the name of the first

state on her list to Mary as she hands her the chalk) on the blackboard, and you may all guess what it is and write it quietly on your slates. (Mary has three minutes in which to draw her map, and the other pupils write down their guesses on their slates.)

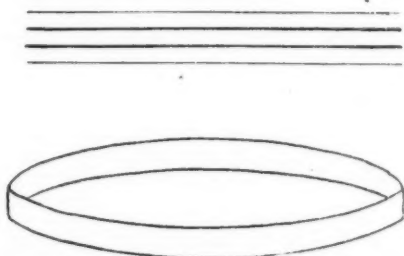
Teacher.—Susie Graves may draw next. (Whispers the second state on her list to Susie. The pupils write what they think it is on their slates. Others draw in turn, taking three minutes only for their drawing. The exercise need not be continued through an entire class if it be a large one. The monitors collect slates at the end, and compare them with the teacher's list. Then the pupils who make the greatest number of correct guesses have their names written on the blackboard.)

Making a Globe.

By GEORGE C. SCRIBNER, Newark, N. J.

Many schools will have to make their own globes or have none, but there is a better reason than that for making them. I would have every child make one to give him something to do; to teach him how to adapt means to reach ends, for this is the art of living, and to get clear ideas in his head as to the form of a globe; all of these reasons could be made the subject of valuable articles.

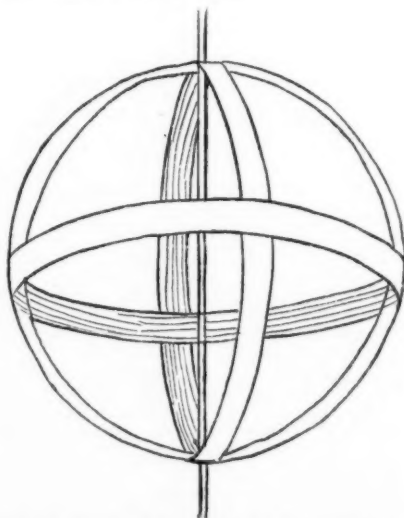
First, for a six inch globe ask for strips of pasteboard one-half inch wide and 18.8 inches long; as the teacher will not have a foot rule divided into tenths, but will have one divided into sixteenths he can turn tenths into sixteenths thus $\frac{9}{10} = \frac{144}{160} = \frac{18}{20} = \frac{9}{10}$ nearly. Bend the strip into a circle and paste a piece underneath to keep the ends level or flat; this is for the equator belt.



Next cut a strip 9 inches long to go from equator to north pole and back, and another to go from equator to south pole and back; paste a piece underneath equator to keep it flat. (This piece is shorter than the equator by the width of the equator strip.)

Next cut two strips each 8.4 inches long to go from north pole to equator on opposite sides. Cut two more of same length to go from south pole to equator; these are shorter by one inch than half of equator. This gives the frame work of the globe. Other strips can be cut and put inside on the "cut and try" principle to go where the tropics and polar circles are. These will stiffen the frame-work.

Next get small wire and thrust through for the axis; bend the wire at an angle of $23\frac{1}{2}$ degrees; tell them it must "point to the north star, for the axis of the earth points there." (It will be well to tell them that the north star is shining in the day time and with a telescope that it may be seen.)



Next cover the frame with strips of thin paper neatly laid on; first, the strips may go up and down like longitude, each strip

pasted to the next one after the style of shingles. Then paste them the other way.

Now the globe is quite firm; some brace the ring (Fig. 1) by cross strips to make it still stronger.

The next thing is with a small camel's hair brush to trace with ink the continents; they must be justly proportioned. The pupils may color them with water colors.

Now let each have a block and put the wire in a hole in it (making it point to the north star) and set it on the desk before him.



The teacher will find that the pupils never have happier days than those spent in making a globe for themselves.

The Teacher's Book of Ideas.

By ELLA M. POWERS, Milford, N. H.

On a teacher's desk lay a book with "Ideas" tastefully decorated on the cover. My curiosity was aroused, for the teacher was one of the brightest, most progressive in the corps. Seeing my curiosity, she said: "Look at the book; you see I read a great many educational publications and the pressure of work here is such that I find it difficult to remember all the methods and devices that I could utilize in my special work. When I do wish for an idea I have read I must search through all my papers, and ten chances to one it isn't to be found. To save time I bought this blank-book, and whenever I read any method, device, or idea that is practicable for my work, I make a note of it in this book."

I opened it and on the introductory pages saw an index similar to one in the usual ledger. A number of pages were set off to each subject which she taught in her room. The index looked similar to this:

Arithmetic, pages	1-20.	Physiology, pages,	50-60.
Drawing, "	20-25.	Language, "	60-70.
Grammar, "	25-30.	Reading, "	70-80.
Geography, "	30-45.	Spelling, "	80-85.
History, "	45-50.	Writing, "	85-90.

Whenever an educational journal is read this book is close at hand and notes are carefully written for future reference and use. There was a system and method in it.

I turned the pages and looked for the ideas in arithmetic between pages one and twenty. I found ideas and devices explained, written out fully, and again only reference was made to the subjects in various educational magazines and papers.

Her sub-index was:

Elements, pages	1-4.
Fractions, "	4-8.
Decimals, "	8-12.
U. S. Money, "	12-16.

Compound Numbers, pages 16-20.

Between pages 1 and 4 were written various methods for tests and proofs of addition, subtraction, "short cuts" in multiplication, and suggestions in division.

The pages looked much like this:

"Device for Teaching Number," PRIMARY SCHOOL JOURNAL, Oct., '91, p. 296.

"Devices in Teaching Arithmetic," Popular Educator, March, '92, p. 223.

"Notes on History of Arithmetic," SCHOOL JOURNAL, Sept. 17, '92, p. 216.

"Fractional Parts," American Teacher, Feb. '92, p. 231.

"An Arithmetic Match," Popular Educator, March, '92, p. 224.

$$43 \times 11 = 473.$$

$$53 \times 11 = 583.$$

To multiply any number of two figures by 11, write the sum of the figures between the first and the last.

$$65 \times 65 = 4,225. \quad 27 \times 23 = 621. \quad 45 \times 44 = 2,024.$$

To multiply any number by a number whose first figure of multiplicand and multiplier are similar and the sum of the last figures is 10, add one to the first figure of the multiplier and multiply, as:

$$6\frac{1}{2} \times 6\frac{1}{2} = 42\frac{1}{4}.$$

$$7\frac{1}{2} \times 7\frac{1}{2} = 56\frac{1}{4}.$$

Thus references and suggestions practical and available were found. Under geography was the following:

"Occupations of New England," American Teacher,

Feb. '92, p. 212.

"Geographical Puzzle," Southern Educator, Jan. '92, p. 476.

"Geography," Popular Educator, March, '92, p. 222.

"Suggestions for Work," Educational News, Oct. 31, '91, p. 615.

"Geography Devices," Goldthwaite's Geog. Magazine.

Passing on through the book I found much under history and this teacher was especially noted for her interesting history lessons. I found:

"History," Popular Educator, May, '92, p. 301.

"History Devices," SCHOOL JOURNAL, Oct. 22, '92, p. 358.

"U. S. History," Southern Educator, Nov., '91, p. 407.

"Review History," SCHOOL JOURNAL, Sept. 17, '92, p. 217.

Each subject was from time to time made more extended by the constant addition of more practicable references and such a book proved invaluable to this progressive teacher.

Preparation for Geography Lessons.

By E. H. ATWOOD, Woodport, Morris Co., N. J.

A lesson in geography has been assigned. The pupils seem interested, study faithfully, and the teacher smiles as she notices their industry. The class is called to recite, the teacher questions John. He hesitates—stares vacantly—and miserably fails. Next! Mary being blessed with a good verbal memory answers glibly. But others follow John's example until the class is dismissed, and the recitation counted a failure. Teacher discouraged; pupils have the idea that geography is the hardest, driest study that they ever saw.

Now what was the cause of failure?

It was lack of preparation on the part of the teacher. Lack of the meaning of many of the words, on the part of the pupils. This preparation is the key to interest and success, in teaching geography or any other study.

We will suppose that the scholars have for their lesson "The Natural Divisions of Land," and that the following questions are to be learned, viz:

What is a continent?

" " an island?

" " a peninsula?

" " an isthmus?

What is a cape?

" " a mountain?

" " a hill?

" " a valley?

Let us devote the recitation time to-day in preparation, and to-morrow in recitation. Stepping to the board we will write the following:

Land	Water
{ Continent	{ Ocean
{ Island	{ Sea
{ Peninsula	{ Lake
{ Cape	{ Pond
{ Isthmus	{ Gulf
{ Hill	{ Bay
{ Mountain	{ Strait
{ Valley	{ Wave
	{ Billow
	{ Trough

We do not write the above at once but step by step beginning at the first division continent, questioning, molding, illustrating by drawing, etc., until the pupil has a clear idea of the object, then pass on to the word peninsula, etc. Island, cape, and mountain are easily taught if the pupils understand what continent, peninsula, and hill are. Most geographies have two lessons, on natural divisions—one on land, and one on water. But it seems so easy to teach both together. Now let us suppose that we have by skillful questioning molding, drawing, etc., drawn the following from the pupils, and written the same upon the board.

A continent is a very large body of land surrounded by water.

An island is a smaller body of land.

A peninsula is a body of land almost surrounded by water.

A cape is a smaller body of land.

An isthmus is a neck of land connecting two bodies of land.

A hill is an elevation of land.

A mountain is larger and higher.

A valley is the land between two hills or mountains.

We are now ready for the divisions of water which it is easy to

see correspond with those of the land. There now remains one thing more. Be sure that every word used in the definitions and descriptions in the book is thoroughly understood. We had quite some trouble with this definition of rapids—"Water flowing down a regular but deep descent," because the words regular and descent conveyed no clear idea of the word "*rapids*." Nothing was said in the definition about the water flowing rapidly, swiftly. And we found by examination that regular and irregular as used in geography was not clearly seen. So after drawing the meanings from the pupils by means of sentences, "the horse runs rapidly" etc., we wrote upon the board.

rapidly=swiftly; fast.
regular=straight; or nearly straight.
descent=a slope; a slant.
ascend=to go up.
descend=to go down.

On the board, this definition was written. "Water flowing rapidly down a straight slope."

Now what was the result of this preparation?

I. A very lively interest.

II. Liberated thought. The child could repeat the words in the book and understand the idea, or better, he could express the thought in his own words and in various ways.

III. A help, instead of a hindrance, to the better study of nature.

The chalk, drawings, molding, etc., used in the school-room are next to studying nature *direct* from nature. Thrice happy he who after examining, and gazing upon, *her* works finds in the book an expression of *her* thoughts.

How to Observe Quadrupeds.

(The following suggestions in the *Christian Union* for the study of quadrupeds from the pen of Wm. T. Hornaday are so excellent that we publish them.—Eos.)

How are animals to be studied? Learn, for the first thing, that the word "animal" does not, as most people suppose, necessarily mean a quadruped, or mammal of some kind; for it does not. There are kingdoms in nature—animal, vegetable, and mineral. Anything that belongs to the great animal kingdom is an animal; and, to avoid confusion, the word should be used in that sense, and no other. In all references to the highest of the vertebrate animals, say either *mammals* or *quadrupeds*, the former preferred.

The ideal way to observe and study mammals is to seek them in their haunts, field-glass, note-book, and gun in hand. Seek them quietly, persistently, and patiently. Learn to creep up on an animal, and see it to your heart's content, without its seeing you. See everything that it does, and write it all down while the facts are fresh in your mind.

With nearly all species, the early morning and late evening are the best times, for it is then that most wild animals are afoot, and in search of something to eat. To find the denizens of the woods, especially the small species, an excellent plan is to go in quietly, sit down at a good point of observation, well concealed, and sit perfectly still for some time. Presently you will be literally charmed by the discovery that your presence has been forgotten, and the squirrels, rabbits, birds, and even deer, bear, and elephants, if the woods contain them, will appear in full view, each intent on its own business. Before you are aware of it you are absorbed in watching how they move about, make love, fight, feed, build their homes, or gather in their harvests for future use. With a good field or opera glass you can almost tell what a bird or quadruped is thinking about.

Watch your subjects from day to day, and find out how many of the higher passions they possess. Try the effect of musical sounds upon them. Above all, try to learn their voices and language, and the different sounds they make under different influences, such as suspicion, alarm, anger, fear, or affection, and write down phonetic imitations of them as well as you can. Of course all the higher vertebrates have the gift of language. No one can doubt this who has ever been in a barnyard, and heard the many different calls and exclamations of the old roosters and hens. The sign-language of animals is of course far more elaborate than their vocal language, and both should be carefully studied in order to gain a clue to the mental capacity and mental processes of our anything but "dumb" animals.

By all means study closely the homes and home life of all the nesting and burrowing species. The lower end of the prairie-dog's burrow is yet as much of a *terra incognita* as the north pole, for no man has ever been there! In digging out a burrow make diagrams as you proceed, to show its shape, size, slant, and depth. It may then be reproduced exactly in some museum. Gather and carefully preserve its entire contents, including bed, food, refuse, and the like. To get at the interior of a nest in a hollow tree, take a keyhole saw and saw out a square section like a door.

Study the tracks of mammals, the tooth and claw marks they

leave on trees, the routes they like best to travel, the way they travel, their swimming, climbing, and leaping power, modes of fighting, hiding, retreating, procuring food, sleeping, etc. When possible, watch your subjects all the year round, to see whether they migrate or hibernate, when and how, and what changes of pelage they undergo in the different seasons, especially summer and winter. Note particularly their breeding habits, and learn everything possible about the birth of their young, their number, character, and career to adult age. Likewise, learn as nearly as you can the geographical range of the species you are studying. All the facts, when ascertained and *written down* make up the life-history of an animal.

Effects of Alcohol on the Blood.

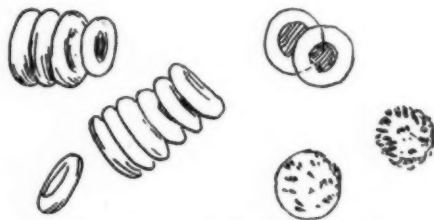
By R. E. LANDER, Brookline, Mass.

Exp. I. Prick the finger under the nail for drop of blood. Place on glass. Examine under the microscope. Observe the way in which the little blood corpuscles are arranged.

There is one white to three hundred red ones. Infer: red corpuscles give color to the blood.

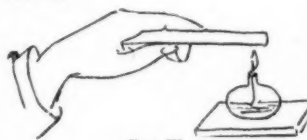
Exp. II. Procure a horse-radish bottle. Get it filled with blood from the slaughter house. Let it stand over night. Observe. Infer: a large part of the blood is water, which helps the blood to flow easily through all parts of the body.

Blood corpuscles as they appear under the microscope are represented below.



The red blood corpuscles are concave disks, and the white have a dotted, rounded appearance.

Exp. III. Repeat *Exp. I.* Cover with alcohol. Infer: alcohol has taken the water from the blood and caused them to shrink.



Exp. IV.

Exp. IV. Take some of the serum saved from *Exp. II.* and note that it does not coagulate of itself.

Boil a little in a test tube over a spirit lamp. Observe. The albumen coagulates.

Direct effect: alcohol causes the albumen of the blood to coagulate.

Alcohol as such cannot be taken up directly by the vessels, but must be first diluted with water, in order to pass through their walls.

Reference: "Lessons in Hygiene," Johnnot & Bouton.

Exp. V. Into a bladder place a mixture of equal parts blood and water (distilled). Into neck of bladder firmly tie long glass tube. Into an artificial serum of blood (salt water colored red) immerse the bladder. Observe. The alcohol in the bladder absorbs water from the surrounding solution, and the fluid passes up into glass tube.

Exp. VI. Make a second mixture of alcohol and water. This time more water than in *Exp. V.* and proceed as in *Exp. V.* Result: A rise of water in the tube, but less than in previous exp.

Exp. VII. Prepare a third mixture one part alcohol to three parts water; proceed as before. Result: For a time a small rise of fluid in the tube. Infer: diluted alcohol does not absorb as much water from blood as full strength.

Allow the third bladder to remain in serum and notice results. Absorption takes place after a while.

Continue to change and replace the outer fluid with fresh serum and at last remove all the alcohol. Infer: in this way alcohol is removed from the stomach into the blood.

Exp. VIII. To test for pure alcohol, place a piece of cotton wool into a cup; pour upon it a little alcohol. Set fire to it, and hold a cold white plate or saucer over the flame. If the alcohol is pure, the plate will remain white. If adulterated a deposit of carbon will be found upon it.

Exp. IX. Also test by boiling. Lightest alcohol boils at 140° Fahr. (72° below boiling water).



Exp. V.

SUMMARY.

Blood corpuscles undergo changes in size and shape.
 Alcohol absorbs the water of the blood and body.
 When we dilute alcohol with water before drinking it, we quicken its absorption.
 If alcohol be not first diluted before it is taken into the stomach, it will seize the water from the tissues and harden and coagulate the tissues and the blood.
 Whatever way alcohol is introduced into the body it enters the blood.

REFERENCE BOOKS.

Greenfield's "Alcohol, Its Use and Abuse;" Six lectures, by B. W. Richardson M.A., M.D., "Health for Little Folks," D. Appleton & Co.; "Physiology and Health," Ivison, Blakeman & Co.; "Our Bodies and How to Live," A. F. Blaisdell, M. D.

Supplementary.

Physiology in Action.

By NELLIE B. BROWN, Lowell, Mass.

(These exercises may be taken sitting or standing. If sitting, the children should sit erect, with their feet on the floor squarely in front, hands on the edge of the desk, palms downward. If standing, the children should stand erect, hands at their sides, toes pointing outward. The standing position is to be preferred.)

The parts of the body are:

The head: (They clasp hands on the top of the head.)

The arms: (They clasp each upper arm with opposite hand.)

The hands: (The hands are extended, palms upward.)

The trunk: (The hands are placed on the sides of the body.)

The legs: (The palms of the hands are on upper leg.)

The feet: (The body is bent forward so that the fingers may touch the feet.)

The parts of the head are:

The brain with which we think: (Touch the top of the head with the forefinger of the right hand.) And the skull which covers it: (Clasp hands on the top of the head.)

The eyes with which we see: (Touch each eye with corresponding forefinger.)

The ears with which we hear: (Touch each ear with corresponding forefinger.)

The nose for smelling: (Touch nose with forefinger of right hand.)

Mouth, teeth, and tongue for eating and speaking: (Touch lips with forefinger of right hand.)

The forehead: (Touch forehead with forefinger of right hand.)

The temples: (Touch temples with corresponding forefinger.)

The cheeks: (Touch cheeks with corresponding forefinger.)

The chin: (Touch chin with forefinger of right hand.)

There are thirty-two bones with each arm:

The shoulder blade: (Reach hands over the shoulder to the shoulder blade.)

The collar bone: (Hands on collar bone.) The main bone of the upper arm: (Hand upon opposite upper arm.) Two bones in each forearm: (Hand upon opposite forearm.) Eight little bones in each wrist: (Left hand clasp right wrist.) Five bones in each hand: (Left hand around right hand.) And fourteen bones in the fingers and thumb: (Left hand around fingers and thumb of right hand.)

There are thirty bones in each leg:

The thigh-bone, which is the longest and strongest bone in the body. (Hands on thighs.) The knee-pan, which covers and protects the knee. (Hands on knees.) Two bones below the knee: (Hands touch lower leg.)

Seven ankle bones: (Touch ankles.)

Nineteen bones in the foot and toes: (Bend forward and touch feet with hands.)

My backbone or spine holds me firm and erect: (Touch backbone with right hand.)

Or, gracefully bending, my movements controls; (Bend the body forward.)

Twelve ribs on each side: (Hands upon sides.)

Lungs, heart, stomach, protect. (Hands on each in turn.)

While my *hip bones* give firmness and strength to my whole. (Hands on hips, arms akimbo.)

I can place my hand here and feel my heart beat. (Place right hand on heart.)

Sending life-giving blood to my every part. (Hands move over body from head downward.)

From the crown of my head to the soles of my feet. (Hands on top of head; then touch feet.)

And bringing impurities back to my heart. (Hand again on heart.)

Thence 'tis sent to my lungs to be purified (hands on the chest) then

Back to my heart and sent onward again (hand on the heart).

To nourish body, build up and repair,

And this is the reason we need the pure air.

My nerves, like sensitive monitors, keep

Guard, to give warning when danger is near;

Some watch while I wake and some when I sleep,

All faithfully tending to shield me from fear.

My fat and my muscles give beauty and grace

To what, otherwise, most unsightly would prove;

Cords, ligaments, tendons hold all in their place,

And by their contractions, they help me to move.

All over our bodies, elastic and tight (move hands over body),
 The skin, like a well-fitting garment is seen (pinch up a bit of skin on the hand).

So warm and so moist, so ruddy, so white,

To keep it in health, we must always keep clean.

These bodies of ours, so perfect, complete,

Should be kept clean and healthy, without and within

Fitted thus for God's use, for his glory made meet,

With souls pure and holy, and free from all sin.

From narcotics, tobacco, and alcohol free,

We'll exercise daily, breathe only pure air,

Live plainly, sleep sweetly, and then we will see,

Ill health has no terrors, old age brings no fear.

The Potters.

(For six boys, to recite with appropriate actions.)

First Boy.—

Oh, potters, good potters, what is it you do?

Five Boys.—

We're making a fine earthen bowl for you,

Out of the earth comes the tough, hard clay;

We grind it and beat it and knead it all day,

Now pressed into shape, on our wheels you behold it

As it twirls, as it whirls, see us fashion and mold it.

Then we set up high on the shelves to dry,

With the jugs and the mugs you shall see by-and-by.

Then deep in the great, dark oven we place it;

There slowly we heat it, and bake it, and glaze it.

When at last it comes out, it will be a nice basin

For you my fine fellow, to wash your nice face in!

—*Dialogues for Little Folks.*

Finger Play for the Youngest.

(Recitation for a small girl.)

What's this? What's this? What's this?

This is a little thumb that's round,

It looks quite like a plum I've found.

This index finger points the place,

And straight it is, yet bends with grace.

This finger doth the longest show,

And makes the middle of the row.

This one the golden ring shall wear,

And like the gold is pure and fair.

This finger is the least of all,

And just completes the number small.

And though these little gifts

Have each a part to fill,

They're all together bound,

And governed by one will.

—*Selected.*

What Would I Like To Be?

(Recitation for three little boys.)

1st. Boy.—I'd like to be a merry breeze

And wander light and free;

I'd cross the hills and plains and seas,

And all should welcome me.

I'd cool the brow and fill the sail,

And shake the blossoms out;

I'd be an angry gale

To scatter fear and rout.

2nd. Boy.—I'd like to be the silver stream
That ripples through the wood;
Where shadows lie or sun-rays gleam
I'd wander doing good.
I'd give pure drink to the birds and flowers
To mouse and dragon-fly,
Cattle should seek me when for hours
The sun was hot and high.

3rd. Boy.—I'd like to be just what I am
A jolly little boy;
A good boy makes a right good man,
And fills the world with joy.
I'll help the poor, and battle wrong.
And work the best I can;
I'll be an honest temperance boy,
An honest temperance man.

—Intelligence.

Temple of Fame.

(Recitation for grammar grade—girl or boy.)

Three riders set out for the Temple of Fame,
Each booted and spurred and equipped the same.
The first rode forth at a rattling pace,
Like a jockey who wins an exciting race.
The second sets out with caution, slow,
That, when need was, he might faster go.
The third rode steadily, quietly on.

And which do you think will the winner be;
The hare, the tortoise—or number three?

The first one soon broke down, of course,
He saved his saddle, but lost his horse!
The second met the regular fate—
Dallied too long, and was just too late!
The third I grieve, and regret to say,
Did not get there—for he lost his way.
He thought too much of his regular trot,
To look at sign boards he quite forgot.

See how strangely things befall!
Another—not thinking of Fame at all—
Who was on his way to the breadfruit tree,
To provide for a wife and children three,
Went straightway into the Temple of Fame.
And innocently asked its name!
They answered him. With a quizzical face,
He remarked, "It's a most uncomfortable place!"
Then he went to the breadfruit tree,
And home to his wife and children three.

The moral? Well, if you can find it,
Write it out—for I sha'n't mind it!

—Selected.

The Better Way.

Who serves his country best?
Not he who, for a brief and stormy space,
Leads forth her armies to the fierce affray.
Short is the time of turmoil and unrest,
Long years of peace succeed it and replace;
There is a better way.

He serves his country best
Who joins the tide that lifts her nobly on;
For speech has myriad tongues for every day,
And song but one; and law within the breast
Is stronger than the graven law on stone;
There is a better way.

He serves his country best
Who lives pure life, and doeth righteous deed,
And walks straight paths, however others stray,
And leaves his sons as uttermost bequest
A stainless record which all men may read;
This is the better way.

No drop but serves the slowly lifting tide,
No dew but has an errand to some flower,
No smallest star but sheds some helpful ray,
And man by man, each giving to the rest,
Makes the firm bulwark of the country's power;
There is no better way.

—Susan Coolidge, in *The Congregationalist*.

Editorial Notes.

The power of common opinion or popular sentiment is seen and felt in every school and every class. Every pupil patterns his or her conduct after the popular sentiment, to a greater or less degree, and obeys the common judgment, feeling its approval a satisfying reward, its condemnation an unbearable censure. When a pupil is corrected, if he can, returning to his seat, look into the faces of his companions and receive their sympathies, the act of the teacher has only excited indignation and does not reform. If, on the other hand, the scholars are with their teacher in their opinion of the offence and its just deserts, never by word, look, or sign will the offender allude to the correction visited upon him. How shall we gain this state of affairs in which the school is in favor of order, obedience, honesty, and industry, and uses its influence as a school toward this end? —Ex:

Prof. Rossiter Raymond spoke to students of Union college on industrial education, defining it as the preparation given in schools of practice and instruction to those who will pursue manual occupations. He argued that the kindergarten—the manual training school—with a thorough instruction in elementary education and simple mathematics and drawing, constitutes the best general foundation; that trade schools so called are deprived of their best effect by lack of previous more general training of eye, hand, and mind, which is applicable to all trades. He thought trade schools should occupy the same relation toward courses of general manual training as that of professional schools of law, medicine, or branches of engineering to the preliminary, literary, and scientific courses of instruction in high schools.

Among the signs of progress is the better attitude of teachers towards educational journals. The time is not far back when the teacher subscribed for one, because there was one,—it might take a little or a good deal of persuasion to effect this, usually the latter. As to paying for the paper, that was uncertain; oftentimes he neglected to do this until the publisher became tired of asking. To send a bill oftentimes made the subscriber angry—or he pretended to be.

But much of this is changed; a teacher now subscribes because he knows he can be immensely benefited. Prof. DeGross said, "The poorest educational paper is worth many times the dollar charged for it." The best thinkers see that the educational paper is closely related to their progress. Those holding the best positions to-day are there because of the educational paper.

The teacher is becoming almost as prompt as subscribers to other papers; he subscribes expecting to pay; when it is due he remits. This is not wholly the case; would that it were!

The teacher should learn what to do when a bill is sent to him; too often he attempts to evade responsibility. He subscribes for one year, and pays in advance; the publisher continues to send the paper and endorses a bill; the teacher pays no attention to the bill, but continues to *take the paper from the office*.

Now if he does not intend to pay for the paper he should notify the publisher not to send it. It is the same as a gas bill or a milk bill; they are contracted for by the week or month; you go on receiving the milk, or burning the gas and you must expect to pay.

Some subscribers will say "I never ordered the paper after the first year;" yet if they go on taking it out of the office that shows they are receiving it.

Let every teacher learn to act in a business way concerning a paper; if milk is left at his door he notifies the milkman not to leave it if not wanted.

This business-like way of acting in the matter has increased from 25 per cent. in 1870 to 75 per cent. in 1890. Now but few teachers take a paper and then refuse to pay for it; they see it is unjust; when the first bill comes they act, either write to stop it, or send money to pay for it.

The new building is attracting much attention on account of its great convenience. Removal to it brought unlooked-for delays, but we shall soon be as prompt as ever in publication. Teachers in New York and the vicinity are cordially invited to visit THE JOURNAL in its new quarters, 61 East 9th street.

The kindergarten department, of Pratt institute, Brooklyn, announces the following course of free lectures to be given in the Assembly hall, on Thursday afternoons, at 4 o'clock, commencing January 12, 1893: January 12, "The Gifts and their Meaning," by Ellis Gray Seymour; January 26, "The Religion of the Kindergarten," by Lyman Abbott, D. D., February 9, "Stories for Children," by Sara E. Wiltse; February 23, "The Nursery and the Kindergarten," by Lucretia W. Treat; March 9, "The Psychology of the Kindergarten," by Laura Fisher; March 23, "Mechanics and the Kindergarten," by Jenny B. Merrill; April 6, "The Ideal Kindergarten," by Hannah D. Mowry; April 20, "Kindergarten Conference," in which all interested are invited to take part.

The Brooklyn Teachers' Association will hold a fair for the benefit of its permanent fund at the Academy of Music from April 10 to 15. In addition to articles of needle-work and for household use that will be exhibited, they propose to have "the best exhibit of school work ever given." Every school will have an opportunity to have its own table or space. A committee has been appointed, the members of which will have charge of the preparations in the different districts. They will sub-district the schools in order to facilitate the work. Those desiring to contribute should report to the delegate from their school as soon as possible.

The boys of the Montreal high school have a skating rink in the court yard. The board of school commissioners granted \$50 a year to flood and freeze the yard. The boys are getting much enjoyment out of the novel privilege.

The *Chicago Herald* is opposed to an increase of teachers' salaries on the ground that those at the top are well paid and that those who receive only \$400 a year, are, as a rule, beginners in school work. The editor writes:

"Teachers, with rare exceptions, are taught, at the expense of the community, the business by which they make their living. Young teachers may with propriety be considered apprentices to the business, and when with the gratuitous instruction for which in other countries and in other occupations a round sum would be charged, it is remembered that apprenticeship must continue for several years before the apprentice has learned the business, \$400 a year is not a paltry compensation. It must also be remembered that the hours which teachers work are also fewer in the day than those of any other bread winning pursuit; that they work five days in the week, giving a fraction of Saturday occasionally to their calling; that the entire school year is limited to about forty weeks, while other people have to work fifty-two weeks, with a small summer vacation or none, and of their working weeks that they must work six days, not a few of them six and a fraction. It is true that the salary of a teacher should contemplate his or her support during the entire calendar year, but some deduction must be allowed in consideration of the leisure time which all teachers have for various purposes which reduce the cost of living if they choose so to use it."

In connection with the recent meeting of the Iowa State Teachers' Association, an exhibit of the schools of the state was given at Cedar Rapids.

A valuable feature that is worth imitating for exhibitions of this kind, was the phonographic reproduction of class exercises of the Sioux City schools. The idea to bring out the oral work in this novel way is original with Supt. Kratz, of Sioux City, and deserves high commendation. One of the cylinders reproduced the singing of two high school grades, another gave a dictation exercise from the lowest primary grades. Prof. F. A. Lacey showed a fine collection of surface maps used in the history and geography classes of Sioux City. Iowa City, Oskaloosa, and Cedar Rapids exhibited some excellent work. The display of the rural schools compared favorably with that of the graded city schools. The examining committee awarded forty-six prizes.

Supt. S. F. Blodgett, of Milford, Mass., sends us the following correction:

"THE JOURNAL, of December 31, contains an item to the effect that the Ling system of physical culture had been severely attacked by the committee of Milford. I wish to say that you have been misinformed. No one of the members of the committee has ever made any objection to the system, neither have they heard of any complaints concerning it.

"The system was introduced about November 1, and so far we are well pleased with it."

They are evidently some live teachers in Fremont county, Iowa. They have round table conferences where they discuss educational questions. For the February meeting the following topics have been selected: Primary Teaching, County Institutes, The Teacher's Preparation, The County High School, and Shall Certificates be Renewed or Duplicated?

The London Court of Common Council has voted £100 to the funds of the School Dinners Association, which provides dinners for poor children in the public elementary schools of London.

The seventeenth session of the Academy of Political and Social Science was held at the Drexel institute, Philadelphia, January 12.

South Dakota.

The Teachers' Association of the state met at Brookings, Dec. 27-28-29. Prof. C. M. Young, of the state university read the annual address. His subject was "Some Educational Problems." He expressed himself in sympathy with the manual training movement. Prof. Geo. M. Smith read a paper on "Educational Fads," which called out a lively discussion. He held up extremes in method and ridiculed the blind following of new departures in education.

Prof. Edwin Duker Parker, spoke on "Psychology in the Class-room." He said that the best teachers are those who know how as well what to teach, and have made a close study of the pupils.

Prof. B. F. Hood in a paper on "Needs of Our Educational System," advocated the establishment of a state board for the examining of teachers and urged that the requirements for county and state superintendencies be raised. Gen. H. H. Beadle followed the same line of thought and emphasized the need of thoroughness below the high school.

Pres. Lewis McLouth, state agricultural college, spoke on "High Schools and Colleges—their Mutual Relations." He believed that there should be unity in the course of study from the first grade in the country school to the highest in college.

"English Literature and How to Teach It," was the subject of the paper of Mrs. Susan Hassell, Redfield.

Dr. I. H. Orcott, Brookings, gave an illustrated lecture on "Alcohol." He declared that alcohol was not a stimulant and proved his assertion by experiments.

Supt. A. C. Cross, originator of the South Dakota Pupil's Reading Circle, presented a plea for the Pupil's Banking System. He said, "It is a very easy matter to say to the young man or woman, help yourself, much harder, yet better, to show them how or where to help themselves." A committee was appointed to select the best system and put it in operation. The following are the officers for '93: Pres. C. M. Young; vice-presidents, Mrs. Susan Hassell, A. C. Cross, Geo. West; secretary, Miss Kate Tauberman; corresponding secretary, Edwin Dukes.

South Dakota.

ONE WHO WAS THERE.

Washington.

The annual meeting at Tacoma, drew about 100 teachers. R. S. Bryon, of Olympia presided; "Vacations" was argued for by J. M. Hill—as though some one wanted to stop them. A. P. Powelton, of Tacoma, pointed out the difference between the American and German schools. There was a fine spirit of hospitality shown the teachers by the Tacoma people. T. S.

A Dublin paper contains the following advertisement: "Governess wanted, 11 till 2; English, French, music; 12s. per month." That would be about 4 cents an hour.

The number of pupils enrolled in the Chicago public schools is 140,000. The city expends annually \$6,000,000 for their education; this is nearly \$43 for each pupil.

New York City.

January 12, the anniversary of the birth of Pestalozzi was celebrated at the Normal college by the following exercises:

Composition: "Life of Pestalozzi," by Miss R. Davidson; "Reading from Pestalozzi's Letter Describing his School at Stanz," by Miss Pownall; "Quotation from Pestalozzi's New Year's Address, 1809," by Miss Ferguson; Composition: "Pestalozzi's Novel—Leonard and Gertrude," by Miss Sewell; Quotation from an address by Dr. Diesterweg, delivered at Berlin on the 100th anniversary of Pestalozzi's birth, by Miss Van Elten."

New York and Florida Special.

The "New York and Florida Special" will be placed in service leaving New York Wednesday, January 18th, 1893, Friday, January 20th, and every Monday, Wednesday, and Friday thereafter, until further notice, at 9.30 A. M., Brooklyn 9.00 A. M., Newark 9.55 A. M., Trenton 11.00 A. M., Philadelphia 11.50 A. M., Wilmington 12.40 P. M., Baltimore 2.30 P. M., Washington 3.30 P. M., arriving at Richmond at 7.00 P. M., Petersburg 7.55 P. M., Weldon 9.45 P. M., Fayetteville 1.37 A. M., Charleston 7.15 A. M., Savannah 9.45 A. M., Waycross 12.45 P. M., Jacksonville 3.00 P. M., and St Augustine 4.15 P. M.

Returning, this train will leave St Augustine Friday, January 20th, at 9.30 A. M., and every Monday, Wednesday, and Friday thereafter, and arrive Washington 12.40 P. M., Baltimore 1.47 P. M., Wilmington 3.23 P. M., Philadelphia 4.04 P. M., Trenton 5.00 P. M., Newark 6.15 P. M., New York 6.30 P. M., and Brooklyn 6.45 P. M.

Passengers from Boston by steamer "Maryland" Route will connect with this train at Philadelphia, leaving Boston 7.00 P. M.; returning, leave Philadelphia 6.50 P. M., arrive Boston 6.50 A. M.

The train, as in previous seasons will consist of drawing-room car (containing six drawing-rooms with all conveniences), dining car, observation car, and drawing-room sleeping cars—all vestibuled.

Drawing-rooms A, B, and C, in car No. 1, and drawing-room A and sections 1 to 8 inclusive, in car No. 2, will be placed on sale at Philadelphia; balance of space on sale at New York. Washington agents will apply to New York for reservation of space, and Baltimore agents will apply to Philadelphia.

New York State Art Teachers' Association.

This association held its first meeting at the New York college for the training of teachers, on January 6 and 7. Its object is to give teachers an opportunity to meet and discuss methods, to secure an interchange of thought based upon actual experience of its members, and to promote a more truthful appreciation of the object of industrial and art education. The president, Eugene C. Colby, principal of the Athenæum and Mechanics' institute, Rochester, New York, welcomed the members. He said that "to-day industrial education is receiving attention from the best minds in the educational field. Nearly all the institutions devoted to this branch of education have laid their corner stones within the last twenty-five years. Now drawing is taught in nearly every city and village; and where there was one teacher of drawing twenty-five years ago, there are twenty to-day. We are on the threshold of an industrial era and I believe the time is soon coming when industrial art education in its broadest sense, will be the public school education of our country. We look to the papers and discussions of this meeting for assistance in our work. There is no better way for teachers to get inspiration and enlargement of ideas than by consultation with each other."

This was followed by an address on drawing in art education by Prof. A. D. Hamlin, school of architecture, Columbia college. Among other strong features of his address, was the great value he placed upon a knowledge of the fundamental principles. He considered the study of geometric drawing essential, as no other study was so conducive to a just appreciation of form, and accuracy in its representation. He said that students trying to pass the examination for the architectural department fail in the subject of geometric drawing, and earnestly advocated that more attention be paid to this subject in elementary schools. He advocated blocking out and showed its advantage in free-hand drawing.

In the discussion of this paper the vexed question of the ruler, its use and abuse, was brought up. After a short but animated expression of opinion on the subject, the following concluding remark was left undisputed: "That, as measurement and accuracy were necessary and exacted from children in the kindergarten, and again required in the grammar grades, there seemed to be no logical reason why the ruler should not also be used as a standard for measurement in the primary schools."

Mr. Heman P. Smith, of the New York normal art school, humorously remarked, that as the ruler in the school days of the past had been the means of producing lively animation, he believed it bid fair to rule yet a little while longer.

An address on "Elementary Art Education in the Public Schools," was given by Miss W. Bertha Hintz, of the New York normal art school. She presented the subject from a purely psychological standpoint, giving many propositions and truths to incite teachers to deeper thought and a more searching investigation into their purposes, or results to be attained. She urged that more freedom be given the children in drawing, that they be not hampered by the printed points in their drawing books, that they be required to produce more and better drawing in the time allowed, that drawing be used as a means of expressing thought, and that the thought should be that of the child, not of the teacher. The whole address was marked throughout by a generous, broad treatment of the subject, and was received with appreciation; many of the thoughts finding a sympathetic echo in the minds of the hearers, as the discussion which followed proved.

A paper upon "Decoration as a Study in the Public Schools" was read by Miss Elizabeth Herrick from the New York college for the training of teachers. She advocated that much material for illustrating the study of historic ornament be used, and gave the study of decoration a definite turn toward applied design.

At the business meeting a constitution was adopted.

An address on "Manual Training," was given by Mr. A. B. Morrill, principal of state normal school, Willimantic, Conn. He advocated giving manual training a practical turn, letting it immediately result in the making of useful objects. He showed some very interesting apparatus for the study of physical science, which was made by pupils.

In the discussion of this address, much emphasis was laid on the use which may be made of manual training as a means of developing power in the student, and having it end, when it has served this purpose, without reference to finished work as a result.

The president of the association and the executive committee are to be congratulated upon the success of the meeting. They invite all interested in art and industrial education to be present at the coming meetings and take part in the discussions. Those desiring to become members may do so by sending the annual fee to the treasurer, Miss Maria P. Bockee, 247 Church street, Poughkeepsie, N. Y.

Prof. J. Fraise Richards has opened a modern normal college at Washington, D. C. Hon. E. E. White and many others speak highly of him. He has a field, certainly.

Correspondence.

An Interesting Collection.

HOW A SCHOOL MANAGED TO GET IT.

There was an exhibition in Jersey City at the time of the local exhibit there a unique and very interesting collection of productions from Mediterranean countries. It attracted no little attention from those present and many inquiries as to the plan pursued in collecting it are answered here.

The design was to make an exhaustive list of the Grecian, Italian, and Spanish products and manufactures, to secure as many of them as possible and present them duly classified under their respective countries.

Very early in the work the teacher found that the raw products alone would demand as much time as could be devoted to collection and arrangement by the class, and the manufactures were tabled for a future time.

A talk with the class soon placed them in sympathy with the plan and each pupil became an enthusiastic searcher after material.

It was agreed at the outset that an indiscriminate gathering of material together would be of little benefit to the class, so it was decided that each product should be accompanied with a little sketch of what it was, where it was produced in the country from which it came, what amount of it was produced, and what became of it, in the way of home consumption or of export. Along with these facts was to be stated any items of interest regarding methods of preparation for market that might come to the pupil during his search.

The pupils were enthusiastic in their work and gave themselves no rest until the collection was complete and the several accounts neatly written up and bound in book form.

Three ounce salt-mouth bottles, with glass stoppers were used for holding each product, and each bottle was labeled with the name of the country from which the product came and with the contents of the bottle.

One of the boys made an ingenious set of steps-shelves from cardboard, covering it with plush, and on these steps the bottles were arranged in an artistic way.

The pupils of the class as well as the teacher found a great broadening of their geographical knowledge of the Mediterranean peninsulas as a result of their month's work at odd moments.

N. J.

A SCHOOL PRINCIPAL.

A World's Fair.

To the Editor of THE JOURNAL:—The advanced class of the grammar school at B. had completed the study of the countries of the Old World. To celebrate that fact and to clinch, as it were, the ideas gained from study, it was decided to hold a "World's Fair."

The following countries were chosen: England, Ireland, France, Spain, Italy, Switzerland, Germany, Belgium, Turkey, China, Japan, Australia and the islands of the Pacific, Brazil, Mexico, and the United States. Two pupils were chosen to represent the United States; one for each of the other countries.

Possession was taken of a vacant room in the building and the pupils immediately set to work to brighten it up, each drawing on the blackboard the country which he represented, its flag, in colors, the area, population, form of government, race, religion, and language.

Maps in colors, on paper, of continents and countries, both physical and political were fastened here and there about the room. These with the board work made pretty and attractive surroundings for the more interesting part of the affair, namely: the productions. It was here that the ingenuity of the pupil was brought out.

Each was ambitious to make the most complete and most artistic display. So heartily did they enter into the spirit of the thing that it was difficult to decide which excelled.

The various productions placed upon tables and teachers' desks (borrowed for the occasion) grouped about the room in such a way as to be most convenient for the visitor.

A day was chosen for the exhibition. In the forenoon the lower grades were admitted, and the impressions they received were recalled in next day's language lesson.

The patrons and friends of the school were received in the afternoon. The members of the class in an interesting way explained to all visitors the uses, composition, and modes of procuring their various exhibits.

The few difficulties that had presented themselves at the outset were overcome by the co-operation of a few business men and others. For example, vanilla beans, a part of the Mexican display, were obtained from a wholesale drug-store.

The shoe industry of eastern United States, was represented by foot wear of all styles borrowed from a wide awake shoe

dealer. Marvelous diamonds, composing a part of the Brazilian display, were obtained at a glass factory. Japanese articles were loaned by a minister who had once been a missionary in that country. Specimens of gold, silver, and copper quartz, representing a part of the industries of western United States, were willingly loaned by a gentleman who had lately traveled through the West. Iron ores, pig metal, steel, glass, lead, zinc, etc., etc., were easily obtained at the manufacturing establishments of the city. And thus throughout the list.

The time and efforts expended were amply rewarded, for the pupils not only gained a more exalted opinion of the resources of foreign countries, but also a higher regard for their own; and, it might be added, a deeper love for that delightful and important study—geography.

JNO. W. THOMAS, Prin. Beltzhoover Schools.
Pittsburg, Pa.

Promotion without Examination.

To the Editor of THE JOURNAL:—Not long since in one of the leading cities of the Union the board of education summoned the principals of the schools to a conference in which the subject of the promotion of pupils was discussed. 80% of the principals expressed themselves as opposed to the use of written examinations as a basis of promotion and in favor of promoting such pupils as showed by their work in the class during the term that they were fitted for more advanced work.

The writer found on conversing with one of the members of the board after the meeting had adjourned, that it was a question in the latter's mind whether teachers of lower grades, having a larger number of pupils under their charge, would be able to judge of the standing of the pupils at the end of the term.

"Well, here is a proposition, Doctor. Come to my school. We will go to Miss R's class. She has had them under her charge since September 12. Select from those present 10 pupils, more if you wish, and let Miss R. answer questions regarding their class standing that you may ask her."

"Agreed," replied the Doctor.

"I do not say," continued I, "that I would apply the same test to all classes in my school with the same confidence that I would there, but I think that if a teacher does not know her class through daily contact with it, that she, at least, would be unable to pass judgment on its merits or demerits, through the means of an examination."

Not long after, the Doctor called, and said that he was ready to apply the test. Of course nothing had been said to Miss R. meanwhile. We went to Miss R.'s room. The Doctor called out the ten pupils, five boys and five girls.

"What about this boy's standing in the class, Miss R., what is his proficiency in reading, writing, number, etc.?"

As each pupil was pointed out by the Doctor the same question was asked the teacher.

There was no hesitancy on the part of Miss R. She showed in her answers that she knew her pupils, and briefly and pointedly made her statements.

I think that the Doctor went away with the impression that much value could be placed on the judgment of Miss R.

Is the time ever coming when this matter of examinations is going to be relegated to the past where it belongs, with corporal punishment, diagramming, alphabet teaching, and a host of other things that we have outgrown?

Does the Doctor need to examine his office boy at stated intervals to determine whether he is proficient or not in the different kinds of work that fall to his lot to do?

N. J.

What city is called "Queen of the West"?

Buffalo.

J. D.

Cincinnati, O. The name was given at the time, when that city was the Commercial metropolis of the West.

What kind of an adverb is "sooner" in the sentence, "He would sooner die than ask you, or any man for a shilling."

Ala.

F. F.

We would call it an adverb of degree, as it is used here in the sense of "more willing."

To the Editor of THE JOURNAL: On behalf of the scholars of the 1st. grades of grammar school No. 90, I wish to thank you for the series of articles published in THE JOURNAL on the School Use of the Stereopticon by Mr. Paddock; for we have enjoyed the pleasure of studying geography in the way suggested and our teacher says he would not have thought of it but for your paper. Very truly yours,

LEONARD BECKLEY,

Class Sec., 1st. grades.

Grammar School, No. 90, N. Y., Dec. 17, 1892.

The blood is the source of health. Keep it pure by taking Hood's Sarsaparilla. Sold by druggists.

Important Events, &c.

Selected from OUR TIMES, published by E. L. Kellogg & Co.; price, 50c. a year.

News Summary.

JAN. 8.—More reports of trouble between Nicaragua and Costa Rica.—Millions of tons of ice crashing down the Ohio river.

JAN. 9.—Senator McPherson speaks in opposition to the further purchase of silver by the government.—The electors meet at the state capitals and cast their votes for president.—The New Jersey Central Railroad will desert the coal combine.

JAN. 10.—A \$1,500,000 fire in Boston.

JAN. 11.—Argentine rebels defeated.

JAN. 12.—Strike of cotton spinners at Manchester, Eng.—Works of American artists in Italy and France on their way to the World's fair.

JAN. 13.—Spain threatens to punish Moorish outrages.

ARIZONA WANTS TO BE MADE A STATE.

Arizona has asked to be made a state, but for political reasons it is not probable that the request will be granted at this Congress. The fifty-third Congress will undoubtedly confer statehood on the territory. It is said that irrigation will cause great changes. The valleys of the Colorado, Salt, Gila, San Pedro, Santa Cruz, and Verde rivers contain as rich bottom land as the world affords. These rivers carry abundance of water to reclaim these lands, but canals and storage reservoirs must be constructed. The work already done in building canals has yielded excellent results. Oranges, lemons, figs, grapes, and other fruits grow in abundance, and are forty days earlier than those of California. The possibilities of Arizona in the way of fruit raising have caused a great scramble for the government land there.

CURIOUS DISCOVERIES IN BURIAL MOUNDS.

Report of a curious discovery comes from California. It has long been known that in the Santa Maria and Culama valleys, numerous burial mounds existed. These are 75 or 100 feet in length and oblong in shape. Recently one of them was opened and at the depth of ten feet, a polished slab was found not over a half inch thick. This, with others, soon brought to view formed a coffin, in which was nothing but the dust of the person buried there, the body having been entirely decomposed. Further explorations showed other coffins, numerous battle-axes, and other weapons of copper, and vessels made of stone. Curious copper disks resembling coins were also found. Everywhere were marks of an ancient race, it is believed far older than any hitherto known on the coast. Near Santa Barbara are rocks engraved with strange characters much like those used by the Egyptians on their tombs.

THE ANTARTIC ICEBERGS.

Great numbers of enormous icebergs are at present floating northward in the southern seas. They are found on the still unexplored continent around the south pole. Some of the ice mountains, towering 250 or 300 feet above the surface of these water have been seen near the cape of Good Hope, and as every foot above the water means eight feet below it, one may judge the vast depth of the antarctic ice-cap. So numerous have the icebergs been lately near the coast of New Zealand, that navigation has been impeded. In October fleets of them 200 to 300 feet high surrounded a vessel near the Chatham islands. Perfect archipelagoes of icebergs have been sighted as far north as 49° and 40° south, some of the detached masses being 300 feet high and 3,000 feet long. Most of them are said to be pure white, but some are described as brown, a color that is probably given to them by the earthy matter they carry.

FIGHTING SLAVE TRADERS.—Some time ago agents of the Brussels anti-slavery society were sent to the borders of Lake Tanganyika to stop the slave trade in that region. They are still fighting the slavers, though in a perilous position, and an expedition has been sent to relieve them.

MAUNA LOA ACTIVE.—It is reported from Hawaii that the pit of the crater of the volcano Mauna Loa is filling up, and that there will be one of the greatest eruptions this year ever known. Every night the whole dome of the mountain is illuminated, and earthquake shocks are frequent.

MRS. STOWE EIGHTY-ONE.—The author of "Uncle Tom's Cabin," reached her eighty-first year in apparently as good physical

health as she enjoyed ten years ago. She lives in Hartford, Conn., and is often seen on the streets. Although her mental powers have failed somewhat, she is remarkably happy and cheerful.

THE SAN JUAN GOLD FIELDS.—Recent reports from the new gold fields said that 7,000 men were already there and others were arriving at the rate of 600 a day. The diggings begin near Bluff City and extend for 250 miles along the San Juan and Colorado reserve.

OLD AZTEC MINES.—There is great excitement over the gold mines discovered near Ures, in the State of Sonora, Mexico. The new mining camp has a population of 15,000, consisting principally of Mexicans with a sprinkling of Americans from Arizona. It is believed that these mines were formerly worked by the Aztecs.

ANTI-FOREIGN RIOT IN CHINA.—A riot at Ichang, China, recently was quelled by British bluejackets. It was caused by an old woman who said that the foreigners had desecrated the grave of one of her ancestors.

FRANCE AND RUSSIA.—Vienna paper publishes what is claimed to be the argument between France and Russia. In case of war each nation is to place 600,000 men in the field within six weeks. Ultimately each is to raise 1,200,000 soldiers, and neither is to make peace without the consent of the other.

A STATUE OF CHANNING.—At Newport, R. I., recently, was unveiled a statue of William Ellery Channing, the famous Unitarian clergyman.

Sweden and the Swedes.

The Northland is the largest peninsula in Europe, being 1,100 miles long and from 250 to 400 miles wide and containing nearly 300,000 square miles of territory. It is more than four times as large as the six New England states. There are two sections governed by the same king, but Norway, the western part, is locally independent. Like the state of Maine the coasts are dotted with islands and cleft by rivers running into the sea, while clusters or ranges of mountains rise in the interior. The same forests also clothe the hillsides; in Sweden, as in the backwoods of Maine, may be seen the maple, beech, and birch, the oak and ash, the spruce, pine, and fir. The wild flowers and berries are also nearly the same. The birds too are the same that migrate along the coast of the Atlantic. In spite of these resemblances, in traveling through Scandinavia you are continually reminded that you are in a high latitude. The snow-covered fields, the chill that comes over you whenever you step into the shade, and the north star twinkling almost over your head at night, all speak to you of the far north.

The most noticeable trait of the people is their kindness. They are kind to each other, kind to their wives and children, kind to the stranger, kind to their domestic animals, and kind to any little wild beast or bird which chance may send in their way. Their hospitality, courtesy, and politeness are proverbial. As you drive along a country road every girl you meet will drop a courtesy and every boy will doff his hat.

The Swedes spend the summer practically in the open air. At the Swedish capital you may sit out all night in the summer time, for as it is never very dark there is little inducement to go in doors, and generally there is no dew falling.

In Sweden you always drive to the left and in walking pass your fellow pedestrians on the same side. In entering a shop a Swede always takes off his hat; he would no more think of keeping his hat on there than he would in a drawing room.

Indian corn never ripens anywhere on the Scandinavian peninsula, and it is only in the southern and middle provinces that wheat can be grown. Rye, barley, and oats, on the other hand, grow well, and rye bread forms the staff of life in Sweden.

The Swedes have a great love for titles. If a man has neither title nor office he is addressed by his business or calling. On going into a tinshop you should not ask, "Can you sell me a pail?" but, "Can tinsmith Pettisson sell me a pail?" With characteristic politeness the Swedes pass their titles over to their wives. Suppose the person addressed were the wife of a consul, a Swede would say, "Will the lady consulinnan go?" An effort has been made to introduce a word meaning "you" into general conversation, but with small success; pronouns are used principally in addressing servants and children. The language is full of tender and kindly words and affectionate phrases. Every phrase and word, too, is sung rather than spoken in a kind of musical intoning. It should be noted also that the Swedes are not a profane race; they seldom swear by the Deity or any of the good powers.

Egypt and its Ruler.

The youth whose portrait is given below, though not yet of age, is the nominal ruler over a large country whose history goes back into the farthest antiquity. The annual overflow of the Nile gave the land wonderful fertility; while the position of the land, protected from the incursions of savage tribes by the desert on one side and great bodies of water on other sides, favored the development of agriculture in the twilight of history, and this laid the foundation of other arts in which the people excelled.

Egyptian history and institutions present so many facts for study that only some of them can be briefly considered here. Our readers will find fully treated in histories the rule of the pharaohs, the bondage of the Jews, the administration of the Persians, Greeks, and Romans, the philosophy and learning of the court of the Ptolemies, the conquest by the Mohammedans, and the rise of the power of the Turks. We wish to call attention particularly to the history of the present century, more especially to the latter half.



ABBAS PASHA, KHEDIVE OF EGYPT.

One of the most remarkable episodes in the history of the country was the invasion by Napoleon in 1798 and the entire subjection of the country. The French were finally expelled by the Turks and British in 1801, and the country restored to the Ottoman Porte. Under various rulers Egypt acquired dominion over part of Arabia and Nubia, a regular army was established, irrigation was improved, and European civilization introduced. After the accession of Said Pasha to power in 1854 M. de Lesseps obtained the co-operation of the Egyptian government in his scheme of the Suez canal, which was opened in 1869. Said was succeeded in 1863 by his nephew, Ismail, who, by leave of the sultan, took in 1866 the hereditary title of khedive (viceroy). Additions to Egyptian territory were made on the east and south. Through Sir Samuel Baker and Gen. Gordon, governor of the Soudan, the khedive tried to suppress the slave trade in his dominions. In 1875 the khedive sold Great Britain \$20,000,000 worth of shares in the Suez canal. The condition of Egyptian finances became so bad that European governments had to interfere, and finally they forced the khedive to abdicate in 1879 in favor of Prince Tewfik, his eldest son.

Five European governments undertook the regulation of the public debt in 1880. In the next year a military revolt occurred under an officer, Arabi Pasha, who demanded of the khedive a change of ministry and the increase of the army to 18,000 men. There was much popular feeling against foreign influence in the government and the khedive was therefore obliged to yield. Arabi then became practically a military dictator, and in 1882 strengthened the fortifications around Alexandria. British and French war-ships were sent to Alexandria, and the British admiral ordered that work on the fortifications be stopped, an order which was not obeyed. A massacre of Europeans in the streets of Alexandria gave the British an excuse for bombarding the city in July. The withdrawal of the Egyptian troops was followed by the burning and sacking of the city. Then an English army marched through Egypt and utterly defeated Arabi's army at Tel el Kebir. Arabi was banished to Ceylon.

Then the English cabinet undertook to restore order under the government of the khedive, and gradually assumed more and more responsibility in the government. The rebellion of Arabi loosened Egypt's hold on the Soudan and a widespread rebellion

broke out in Darfur and Kordofan under the Mahdi (Guide of the Faithful). He defeated an English officer near El Obeid in 1883. Then, by advice of England, Egypt agreed to give up all her possessions in the Soudan except the Red sea littoral. In 1884 Gen. Gordon was sent as English representative to Khartoum to secure the withdrawal of English garrisons from the Soudan. He maintained his ground against the Mahdi's followers for a time. The story of his defeat and death forms one of the most thrilling chapters in recent history.

Since that time the French have constantly used their influence to get the British to evacuate Egypt. The death of the khedive, Tewfik, again brought up the whole question, but the British firmly decided to maintain their hold. The new khedive, Abbas Pasha, a youth of eighteen, is not supposed to have a very decided opinion in the matter. English rule usually brings established law, security of property and person, and generally honest and capable administration, and it is believed that Abbas will appreciate the benefits of these.

Finland and its People.

Finland truly deserves the name, "The Land of the Thousand Lakes," seeing that they occupy more than 12 and the marshes 20 per cent. of the area; hence it is more abundantly supplied with water than any other country in the world. Immense forests cover one-half of its surface, extending northward as far as Lake Enara. Of the whole population, 85 per cent. are Finns proper, 14 per cent. are Swedish speaking traders, peasants, and farmers, the latter living mostly on the coasts and islands. The inhabitants are strong and hardy, with bright, intelligent faces, high cheek-bones; yellow hair is common, but by no means the rule, black or dark brown being frequently met with in the interior. Their temper is universally mild; they are slow to anger, and when angry keep silence.

Helisingfors, the capital, population 35,000, is the most important naval station on the Baltic. It is beautifully situated on a peninsula surrounded by islands and the rocky cliffs of the gulf of Finland. The city has broad streets that intersect at right angles and several public squares. Abo, the second city in population is situated on the river Aurajokki, near the gulf of Bothnia. It is famous for the peace concluded here in August, 1743, between Sweden and Russia, which ended the war in which Russia gained possession of the whole of Finland.

The Finnish language is noted for the prominence of the vowels. In poetry alliteration is preferred to rhyme. The Finnish alphabet contains but nineteen letters, and of these b, c, d, f, and g are found only in a few foreign words. Longfellow's "Hiawatha" is a good imitation of the "Kalevala," the great epic poem of Finland.

New Books.

A revised edition of *Lessons in Elementary Mechanics*, by Sir Philip Magnus, has just been issued. Since 1875, when it was first issued, it has been widely used in schools, and its great value as a text-book has been appreciated; but science moves rapidly in these days, and, in order to bring the book abreast of the times a revision was necessary. Changes in some of the definitions have been made, and greater exactness in certain of the terms employed will be found. On the subject of units and change of units the author has added one or two sections. He has also aimed at making the teaching of mechanics serve as a basis for the study of other branches of physical science; also to bring out the educational value of the subject. Many of the suggestions from teachers during the past seventeen years have been incorporated in this book. The thorough study of this book will lay a firm foundation for a knowledge of this most important branch of physical science. (Longmans, Green & Co., London New York.)

The girls who have become interested in the "Bessie" books will be glad to learn that a fourth of the series of sequels, entitled *Maggie Bradford's Fair*, by Joanna H. Matthews, has just been published. That this writer knows how to write so as to please the young people is attested by the remarkable success of these books. This last volume of the series is well printed and illustrated, and bound in cloth with appropriate designs in black and gold. The illustrations are by W. St. John Harper. (Frederick A. Stokes Co., New York.)

No. 23 of the Good Company series is a pleasant tale of American life told by Sophie May. The title, *Her Friend's Lover*, shows that the master passion is the main theme. It is a very entertaining book for a leisure hour. The popular series to which this volume belongs is sent for \$5.00 annual subscription (one number each month), 50 cents per volume. (Lee & Shepard, Boston.)

One of the best of German stories, by E. Werner, translated by Dr. Raphael, is contained in the volume we have before us. The title, *Enthralled and Released*, hints at the love thread that is woven into the narrative from the first chapter to the last. The tale relates to the old and honored house of the Werdenfels whose roots strike deep down into German society, and incidentally we are given pictures of castles and landscapes and are made acquainted with the ways of the peasantry. The book is well illustrated and bound in cloth. (Worthington Co., New York.)

Prof. Ellery W. Davis, of the University of South Carolina, has prepared a book, *An Introduction to the Logic of Algebra*, that will afford much mental discipline to those who have a good elementary knowledge of mathematics. The author, in speaking of

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the study of the logic of algebra, says: "By it the student learns the meaning and relationship of processes that he has been learning more or less blindly, perceives the oneness of mathematical reasoning whether under the name of geometry or algebra, and gets a glimpse of those methods and conceptions on which the whole of modern mathematics has been built up." The aim has been not to attempt too much and to do thoroughly the work taken up. Illustrative exercises are furnished to help give the student an insight into the processes. (John Wiley & Sons, New York.)

Effie W. Merriman, the author of several stories of merit, has produced a tale of life in a Western village and in Chicago, entitled *The Conways*. The characters are depicted with vigor and so naturally that one begins to regard them before the story is finished as almost personal acquaintances. Their talk is vivacious and with a mixture of humor. One also becomes interested in the improvements of the little town, which are freely discussed as the story proceeds. The interest is never allowed to flag and besides the tone of the story is good. The book is well illustrated and bound in cloth with flower and leaf designs on the front cover. (Lee & Shepard, Boston. \$1.25.)

All attempts to secure a reading and study of Shakespeare in school should be encouraged, and all books that conduce to that end welcomed. The comedy of *Twelfth Night* has recently appeared in the series of English Classics for Schools. It gives an excellent sketch of the poet and some facts regarding the origin of the play. There are foot-notes to explain difficult points. The print is large and clear. The teacher who wishes to get her pupils to appreciate the beauties of the best literature, to give them a literary taste so they will shun that which is poor, might very profitably introduce this little book. (American Book Co., New York, Cincinnati, and Chicago. 20 cents.)

The Macmillans are doing much to help along the study of literature and science in the schools by publishing a series of handsome and readable little volumes in their School Library. Rev. Alfred J. Church, the author of *The Story of the Iliad*, one of the series, has never been surpassed as a narrator of the tales of the Grecian mythology. His prose version of the Iliad has the merit of conciseness and simplicity, while the charm of the poem suffers much less than one would expect in a greatly abbreviated prose version. It would do any boy or girl good to read this charming little book. (Macmillan & Co., New York. 50 cents.)

In *Heath's Modern Language* series is published a little book of 91 pages containing *La Chute* an extract from Victor Hugo's *Les Misérables*, which has been styled the greatest novel of the century. This part of his work has been chosen because it reveals more of the man than any other number of pages he ever wrote. The notes will be found to meet the wants of those who are familiar with grammar and the more common idioms. (D. C. Heath & Co., Boston. 30 cents.)

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